FCC Information and Copyright

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation.

The vendor makes no representations or warranties with respect to the contents here and specially disclaims any implied warranties of merchantability or fitness for any purpose. Further the vendor reserves the right to revise this publication and to make changes to the contents here without obligation to notify any party beforehand.

Duplication of this publication, in part or in whole, is not allowed without first obtaining the vendor's approval in writing.

The content of this user's manual is subject to be changed without notice and we will not be responsible for any mistakes found in this user's manual. All the brand and product names are trademarks of their respective companies.

Table of Contents

Chapter 1: Introduction 3
1.1 Before You Start 3
1.2 Package Checklist 3
1.3 Mainboard Specifications 4
1.4 Rear Panel 5
1.5 Mainboard Layout (Front) 6
1.6 Mainboard Layout (Back) 7
Chapter 2: Installation 8
2.1 CPU 8
2.2 Fan Headers 9
2.3 System Memory 10
2.4 Power Supply 11
2.5 Onboard Slot/Connector/Header/Jumper 12
Chapter 3: BIOS Setup 23
3.1 Entering Setup 23
3.2 Using Setup 23
3.3 Main Menu 24
3.4 Standard CMOS Features 27
3.5 Advanced BIOS Features 29
3.6 Advanced Chipset Features 34
3.7 Integrated Peripherals 40
3.8 Power Management Setup 46
3.9 PnP/PCI Configurations 50
3.10 PC Health Status 53
3.11 Frequency/Voltage Control 55
Chapter 4: RAID Functions 56
4.1 Operating System 56
4.2 Raid Arrays 56
4.3 How RAID Works 56
Chapter 5: Useful Help 58
5.1 Driver Installation Note 58
5.2 Phoenix-Award BIOS Beep Code 59
5.3 Extra Information 59
5.4 Troubleshooting 60

CHAPTER 1: INTRODUCTION

1.1 BEFORE YOU START

Thank you for choosing our product. Before you start installing the mainboard, please make sure you follow the instructions below:

- Prepare a dry and stable working environment with sufficient lighting.
- Always disconnect the system from power outlet before operation.
- Before you take the mainboard out from anti-static bag, ground yourself properly by touching any safely grounded appliance, or use grounded wrist strap to remove the static charge.
- Avoid touching the components on mainboard or the rear side of the board unless necessary. Hold the board on the edge, do not try to bend or flex the board.
- Do not leave any unfastened small parts inside the case after installation. Loose parts will cause short circuits which may damage the equipment.
- Keep the system from dangerous area, such as heat source, humid air, and water.

1.2 PACKAGE CHECKLIST

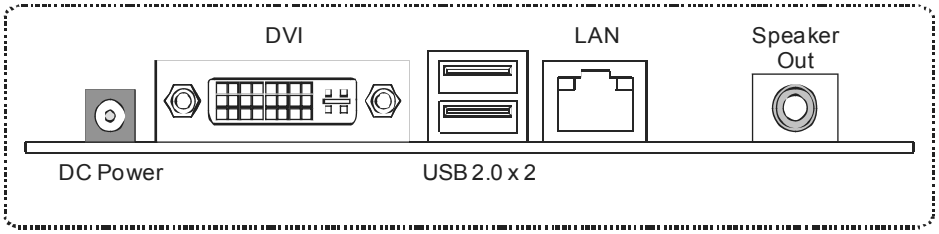
- 3.5” Mainboard x 1
- Fully Setup Driver CD x 1
- IDE Cable x 1 (Optional)
- SATA Cable x 1 (Optional)
- HDD Power Cable x 1 (Optional)

1.3 MAINBOARD SPECIFICATIONS

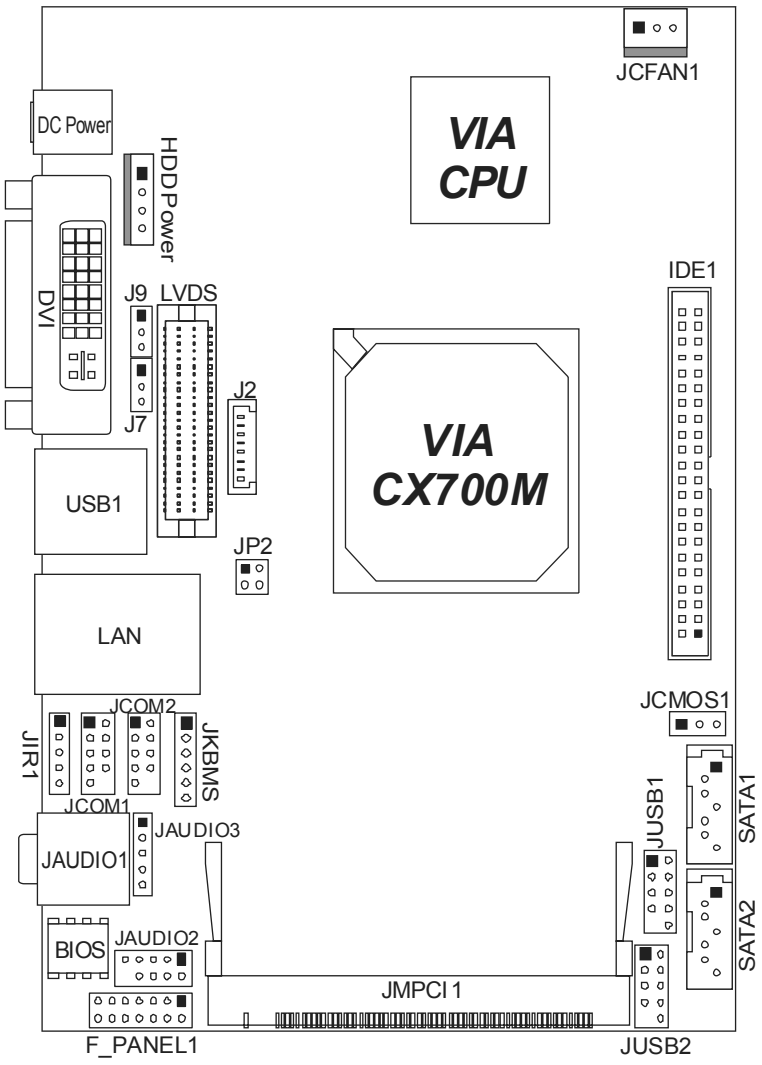
Specifications		
CPU	On-Board VIA CPU Eden-ULV / Eden Series	V4 bus NanoBGA2
FSB	800/400MHz	
Chipset	VIA CX700M	
Graphic	VIA UniChromePro II	Max Shared Video Memory is 128 MB Supports DVI/LVDS
Super I/O	ITE8712 Provides the most commonly used legacy Super I/O functionality.	Low Pin Count Interface Environment Control initiatives, H/W Monitor Fan Speed Controller
Main Memory	SO-DIMM Slots x 1 Supports DDR2 533 / 400 Each DIMM supports 256MB/512MB/1GB DDR2 Max Memory Capicity 1GB	Single Channel Mode DDR2 memory module Registered DIMM and ECC DIMM are not supported
IDE	Integrated IDE Controller	Ultra DMA 33~133 Bus Master Mode Supports PIO Mode 0~4 Supports 2 IDE device
SATA	Integrated SATA Controller	SATA Version 1.0 specification compliant. Data transfer rates up to 3.0 Gbit/s. Supports RAID 0 / 1
LAN	VIA VT6122	10/100/1000 Mb/s auto negotiation Half / Full duplex capability
Sound Codec	VIA VT1708B	5.1 channels audio out Supports HD Audio
Slots	Mini-PCI slot x1 CompactFlash socket x1	
On Board Connector	IDE Connector x1 PS/2 Keyboard/Mouse Header x1 SATA Connector x2 Serial Header x2	

Specifications			
	Front Panel Connector	x1	
	Audio Connector	x2	
	CPU Fan Header	x1	
	Clear CMOS Header	x1	
	USB connector	x2	
	IR Header	x1	
	LVDS Connector	x1	
	LCD Power Select Header	x1	
	LCD Backlight Inverter	x1	
	Backlight Power Select Header	x1	
	Backlight Brightness Adjust Header	x1	
	HD Power Header (4pin)	x1	
Back Panel I/O	DC Power Jack	x1	
	DVI Port	x1	
	USB Port	x2	
	LAN Port	x1	
	Audio Jack	x1	
Board Size	105 mm (W) x 146 mm (L)		3.5"
OS Support	Windows XP / WinCE / Linux		Biostar Reserves the right to add or remove support for any OS with or without notice.

1.4 REAR PANEL

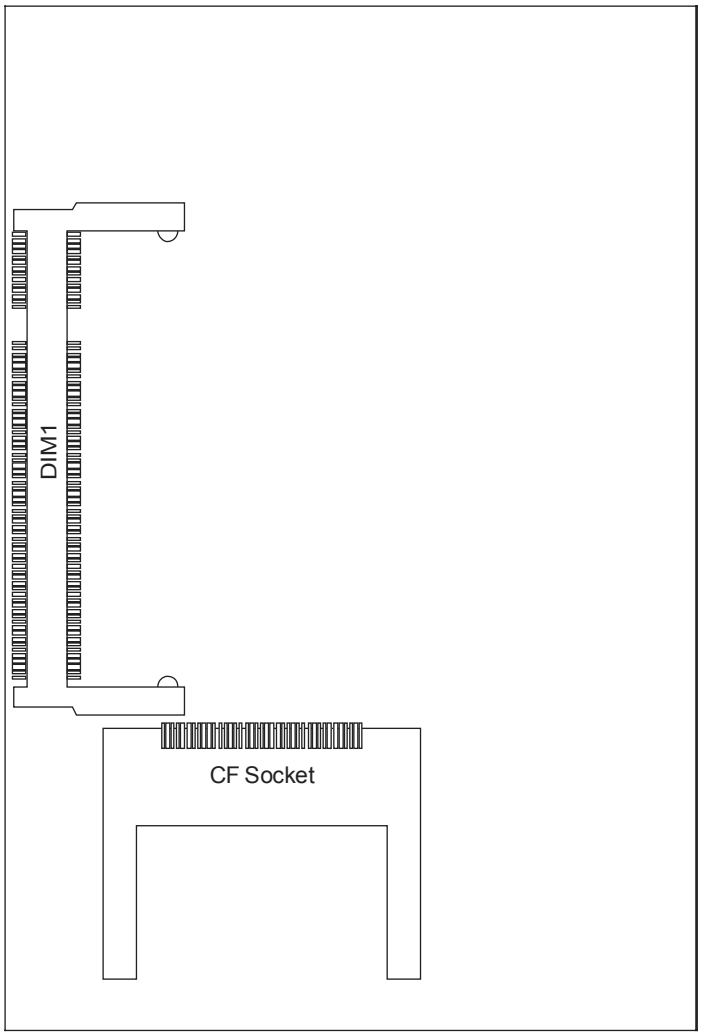


1.5 MAINBOARD LAYOUT (FRONT)



Note: ■ represents the 1st pin.

1.6 MAINBOARD LAYOUT (BACK)

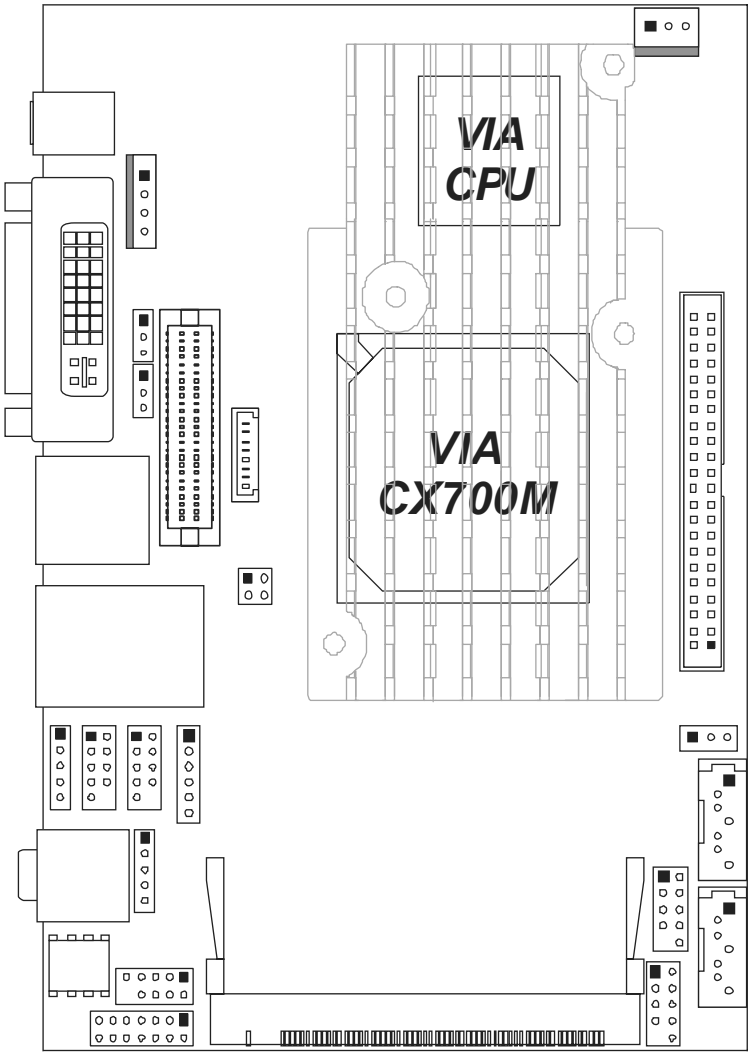


Note: ■ represents the 1st pin.

CHAPTER 2: INSTALLATION

2.1 CPU

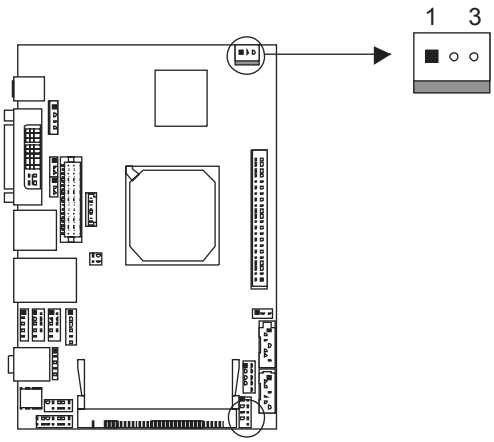
The mainboard includes an embedded VIA V4 Bus processor and a heatsink has been installed to provide sufficient cooling.



2.2 FAN HEADERS

These fan headers support cooling-fans built in the system. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to GND.

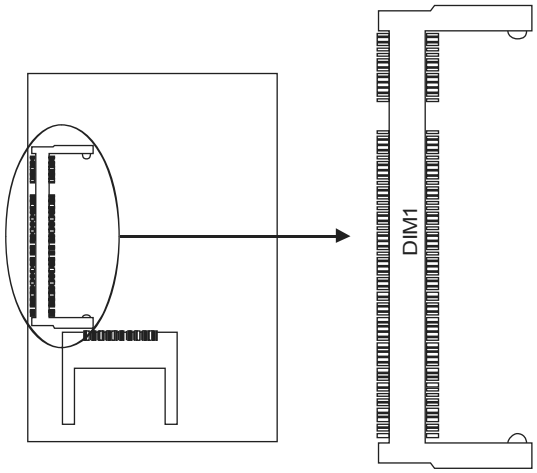
CPU Fan Header



Pin	Assignment
1	FAN_MCM
2	Smart_Fan
3	GND

2.3 System Memory

Memory Modules (200pin SO-DIMM)



1. Align a DIMM on the slot such that the notch on the DIMM matches the break on the Slot.

2. Insert the DIMM firmly into the slot until the retaining chip snap back in place and the DIMM is properly seated.

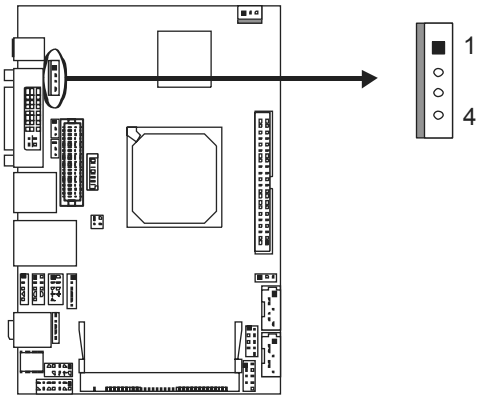
Memory Capacity

DIMM Socket Location	DDR2 Module	Total Memory Size
DIM1	256MB/512MB/1GB	Max is 1GB.

2.4 Power Supply

HDD Power Connector

This connector allows user to connect 4-pin power connector on the power supply for providing HDD power.



Pin	Assignment
1	+12V
2	GND
3	+3.3V
4	+5V

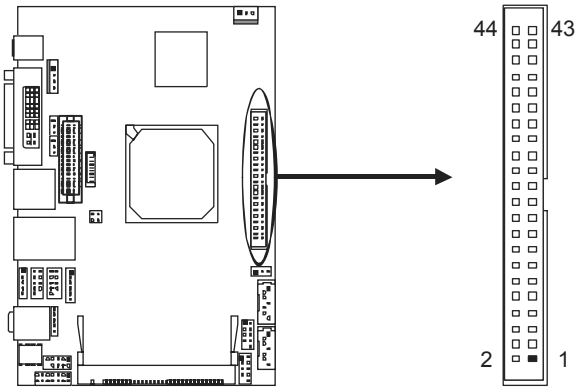
2.5 ONBOARD SLOT/CONNECTOR/HEADER/JUMPER

ATA Device Connector

The mainboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA 33/66/100/133 functionality. It has one IDE connector.

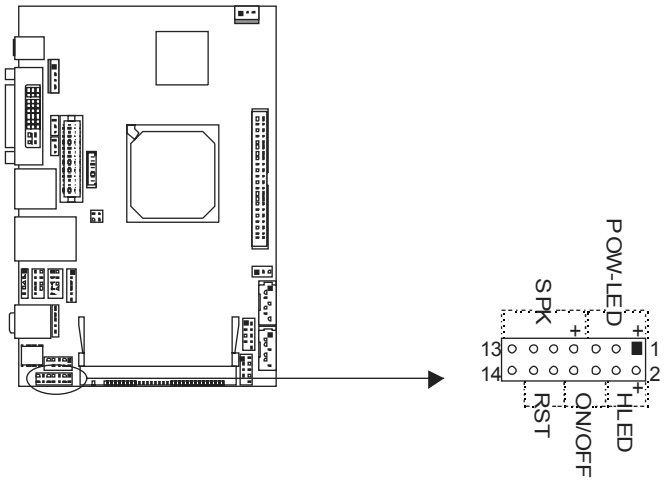
The IDE connector can connect a master and a slave drive, so you can connect up to two ATA devices.

Be aware of that the CF socket on the back panel uses IDE Master as default channel. If the CF socket is inserted with CF card, the ATA connector would allow only one device and the device should be set to IDE Slave.



Front Panel Connector

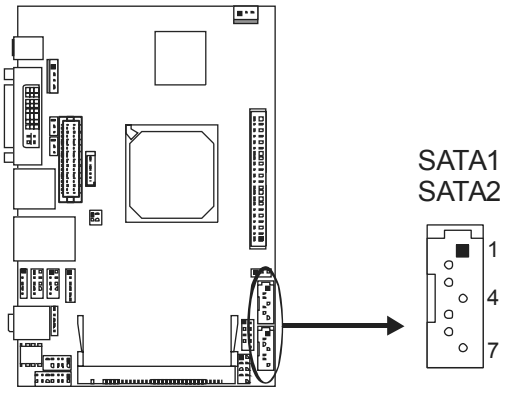
This 14-pin connector includes Power-on, Reset, HDD LED, Power LED, and speaker connection. It allows user to connect the system case's front panel switch functions.



Pin	Assignment	Function	Pin	Assignment	Function
1	+5VDUAL	Power LED	2	+5V	HDD LED
3	+5VDUAL		4	HD_LED	
5	PWR_LED		6	PW_BN	Power Switch
7	+5V	Speaker	8	GND	
9	NC		10	RESET	Reset Switch
11	NC		12	GND	
13	SPEAKER		14	+5V	N/A

Serial ATA Connectors

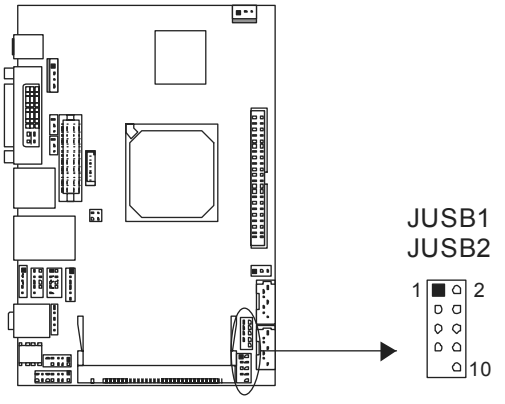
These next generation connectors support the thin Serial ATA cables for primary internal storage devices. The current Serial ATA interface allows up to 3.0Gbit/s data transfer rate, faster than the standard parallel ATA with 133 MB/s (Ultra DMA).



Pin	Assignment
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

USB 2.0 Connectors

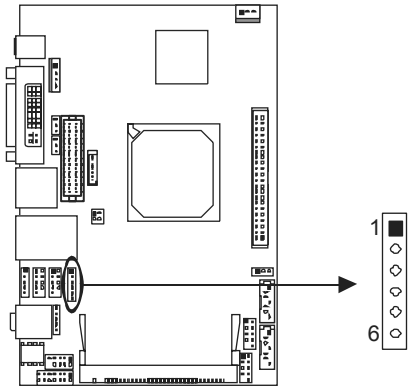
The mainboard provides two front USB pin headers, allowing up to 3 or 4 additional USB2.0 ports up to maximum throughput of 480 Mbps. Connect the 2-port USB cables into these pin headers. These ports can be used to connect high-speed USB interface peripherals.



Pin	Assignment
1	+5V (fused)
2	+5V (fused)
3	USB-
4	USB-
5	USB+
6	USB+
7	Ground
8	Ground
9	Key
10	NC

Keyboard/Mouse Connector

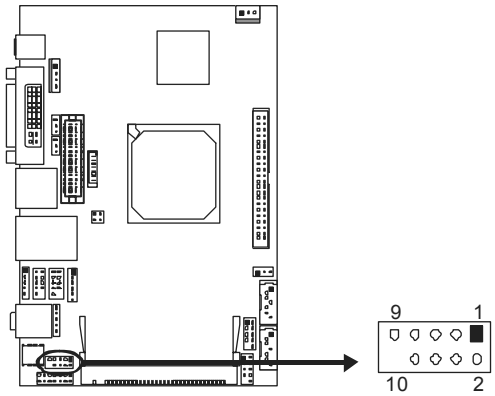
The mainboard provides a PS2 pin header to attach a PS2 keyboard/mouse.



Pin	Assignment
1	MS_CLK
2	MS_DATA
3	KB_CLK
4	KB_DATA
5	GND
6	+5V

Audio Mic-In and Line-In Connector

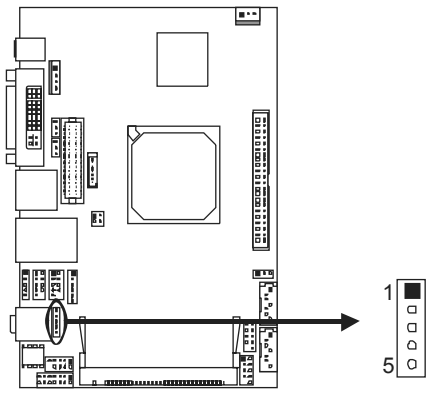
This connector provides Mic-in and Line-in connections.



Pin	Assignment
1	LINEIN_L
2	MIC_IN_L
3	Audio_GND
4	Audio_GND
5	LINEIN_JD
6	MIC_JD
7	LINEIN_R
8	MIC_IN_R
9	COMM_GND
10	NC

Audio Line-Out Connector

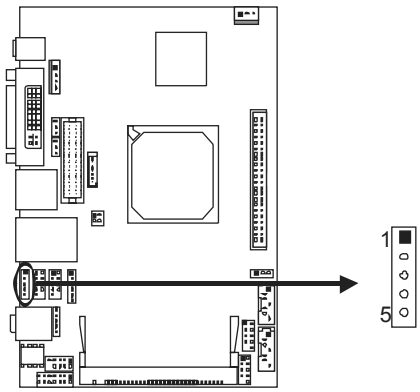
This connector provides Line-out connection.



Pin	Assignment
1	Line2 Out-Left
2	NC
3	NC
4	Line2 Out-Right
5	GND

Fast IrDA Infrared Module Connector

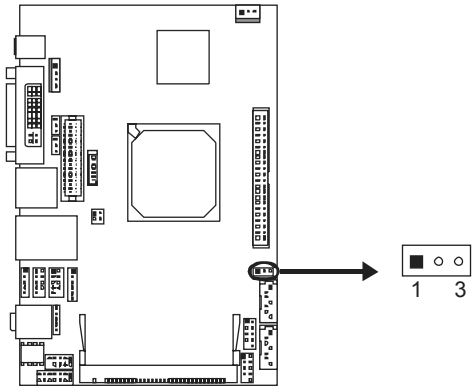
This connector is used to connect to an IrDA module. The BIOS settings must be configured to activate the IR function.



Pin	Assignment
1	+5V
2	CIRRX
3	IRRX
4	GND
5	IRTX

Clear CMOS Header *

By placing the jumper on pin2-3, it allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the mainboard.



Pin 1-2 Close:
Normal Operation(default).

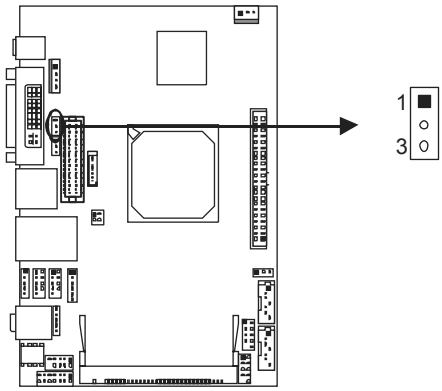
Pin 2-3 Close:
Clear CMOS data.

※ Clear CMOS Procedures:

1. Remove DC power line.
2. Set the jumper to “Pin 2-3 close”.
3. Wait for five seconds.
4. Set the jumper to “Pin 1-2 close”.
5. Reconnect DC power and Power on.
6. Reset your desired password or clear the CMOS data.

LCD Power Select Header *

This header allows you to select the LCD Power.

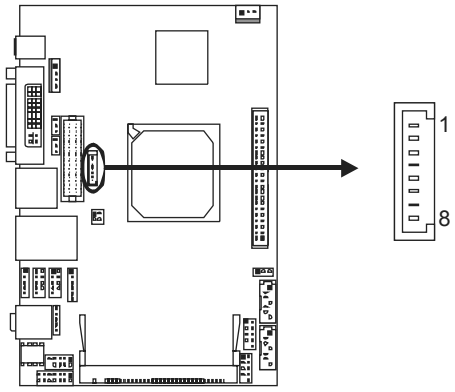


Pin 1-2 Close:
PVDD=5V

Pin 2-3 Close:
PVDD=3.3V

LCD Backlight Inverter

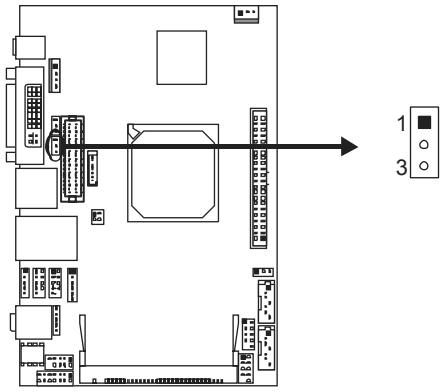
This connector is for connecting to LCD for providing backlight control function.



Pin	Assignment
1	5V/12V DC (by J7)
2	5V/12V DC (by J7)
3	NC
4	NC
5	Backlight On
6	Brightness Adjust (by JP2)
7	GND
8	GND

LCD Backlight Power Select Header (J7) *

This header is for selecting LCD backlight power.

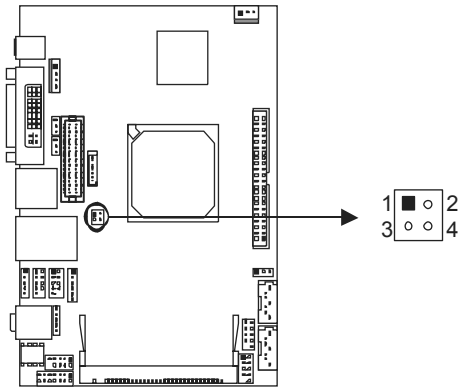


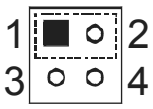
Pin 1-2 Close:
Backlight Power=5V

Pin 2-3 Close:
Backlight Power=12V

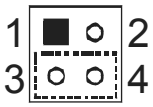
LCD Backlight Brightness Adjust Header (JP2) *

This header is for adjusting LCD backlight brightness.





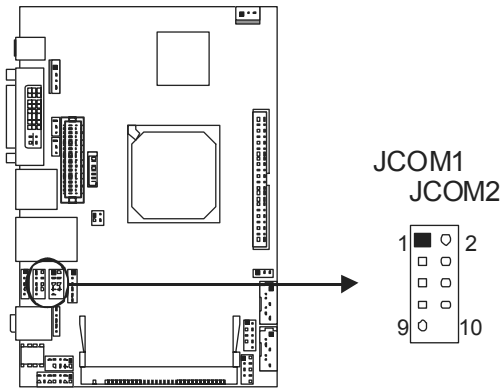
Short Pin 1-2:
Decrease Brightness



Short Pin 3-4:
Increase Brightness

Serial Port Connectors

These are Serial Port Connectors for connecting RS-232 Port.



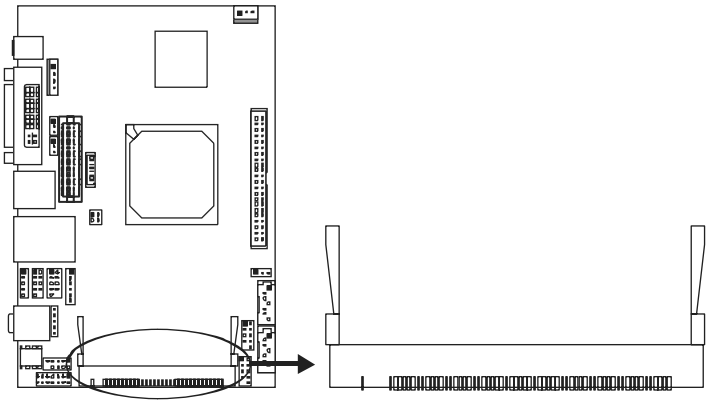
Pin	Assignment
1	Carrier detect
2	Data set ready
3	Received data
4	Request to send
5	Transmitted data
6	Clear to send
7	Data terminal ready
8	Ring indicator
9	Signal ground
10	Key

Mini PCI Slot

Mini-PCI socket for TYPE III B (32-bit, 33MHz), Power supply: +3.3V, +12V.

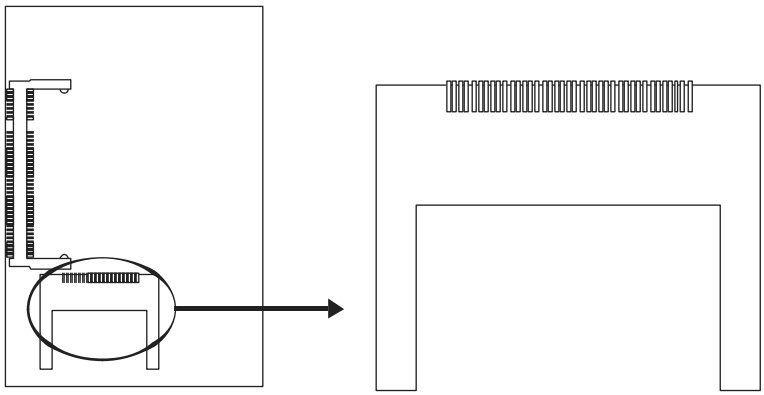
Mini PCI is a standard for a computer bus for attaching peripheral devices to a computer mainboard and is an adaptation of the Peripheral Component Interconnect (PCI) bus.

Many Mini PCI devices are available today: WiFi, modems, sound cards, cryptographic accelerators, SCSI, IDE/ATA and SATA controllers.



CompactFlash Card Socket

This socket allows Type or Type II CF Card (I/O Card or Storage Card). This socket uses IDE Master as default channel.

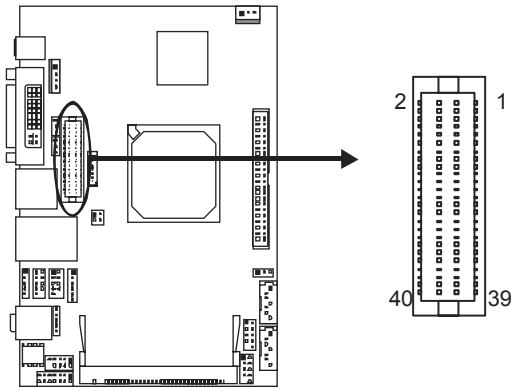


LVDS Connector

This connector is for devices requiring display interface such as LVDS.

This connector supports only 18-bit single-/dual-channel panels up to UXGA (1600 x 1200), 25 MHz to 112 MHz; at 24bpp (24-bit TFT panel type supported.)

- Supports panel resolution from VGA through UXGA (1600 x 1200).
- Supports one Dual-Channel and two Single-Channel LVDS panel(s).



Pin	Assignment	Pin	Assignment
1	LVDS2_TX0- (Differential signal)	2	PVDD (+3.3V or +5V)
3	LVDS2_TX0+ (Differential signal)	4	PVDD (+3.3V or +5V)
5	GND	6	GND
7	LVDS2_TX1- (Differential signal)	8	GND
9	LVDS2_TX1+ (Differential signal)	10	LVDS1_TX0- (Differential signal)
11	GND	12	LVDS1_TX0+ (Differential signal)
13	LVDS2_TX2- (Differential signal)	14	GND
15	LVDS2_TX2+ (Differential signal)	16	LVDS1_TX1- ((Differential signal)
17	GND	18	LVDS1_TX1+ (Differential signal)
19	LVDS2_CLK- (Differential signal)	20	GND
21	LVDS2_CLK+ (Differential signal)	22	LVDS1_TX2- (Differential signal)
23	GND	24	LVDS1_TX2+(Differential signal)
25	LVDS2_TX3- (Differential signal)	26	GND
27	LVDS2_TX3+ (Differential signal)	28	LVDS1_CLK- (Differential signal)
29	+5V	30	LVDS1_CLK+(Differential signal)
31	I2C_CLK	32	GND
33	+3.3V	34	LVDS1_TX3- (Differential signal)
35	NC	36	LVDS1_TX3+ (Differential signal)
37	PVDD (+3.3V or +5V)	38	NC
39	PVDD (+3.3V or +5V)	40	I2C_DATA

*How to Setup Jumpers

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.

Pin opened

Pin closed

Pin1-2 closed

CHAPTER 3: BIOS SETUP

3.1 ENTERING SETUP

Power on the system and press <Delete> during the beginning of the boot sequence to enter the BIOS setup menu. If you missed the BIOS setup entry point, you may restart the system and try again.

3.2 USING SETUP

Use the arrow keys to highlight items in most of the place, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

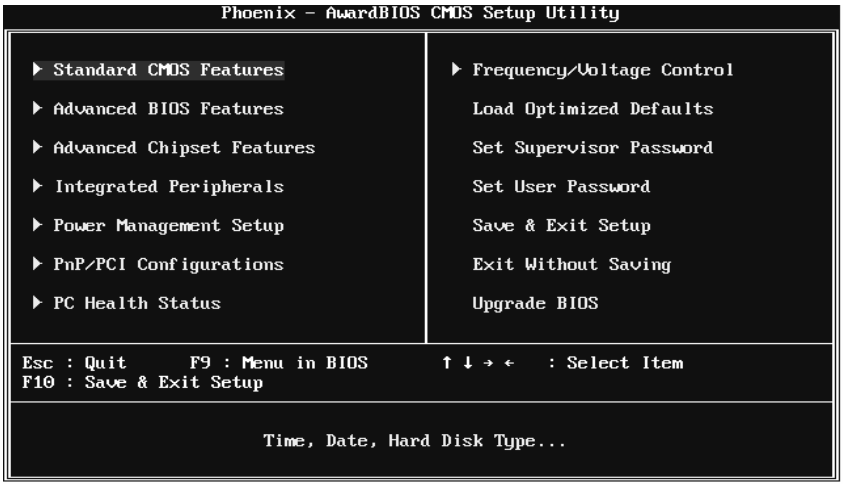
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

!! WARNING !!

For better system performance, the BIOS firmware is being continuously updated. The BIOS information described in this manual is for your reference only. The actual BIOS information and settings on board may be slightly different from this manual.

3.3 MAIN MENU

Once you enter Phoenix-Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.



Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

This submenu allows you to configure advanced features of the BIOS.

Advanced Chipset Features

This submenu allows you to configure special chipset features.

Integrated Peripherals

This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

Power Management Setup

This submenu allows you to configure the power management features.

PnP/PCI Configurations

This submenu allows you to configure certain “Plug and Play” and PCI options.

PC Health Status

This submenu allows you to monitor the hardware of your system.

Frequency/Voltage Control

This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock.

(However, we suggest you to use the default setting. Changing the voltage and clock improperly may damage the CPU or M/B!)

Load Optimized Defaults

This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.

Set Supervisor Password

Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.

Set User Password

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.

Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. Confirmation message will be displayed before proceeding.

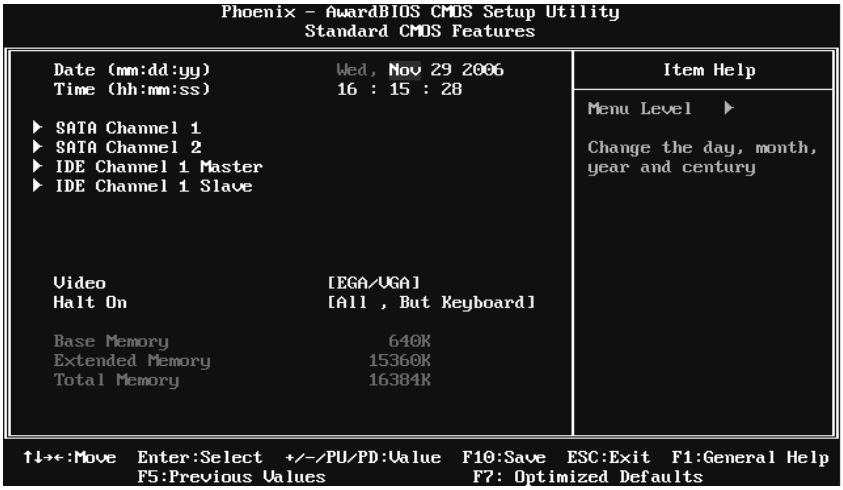
Exit Without Saving

Abandon all changes made during the current session and exit setup. Confirmation message will be displayed before proceeding.

Upgrade BIOS

This submenu allows you to upgrade bios.

3.4 STANDARD CMOS FEATURES


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Wed, Nov 29 2006
Time (hh:mm:ss) 16 : 15 : 28
SATA Channel 1
SATA Channel 2
IDE Channel 1 Master
IDE Channel 1 Slave
Video [EGA/VGA]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 15360K
Total Memory 16384K
Item Help
Menu Level ▶
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

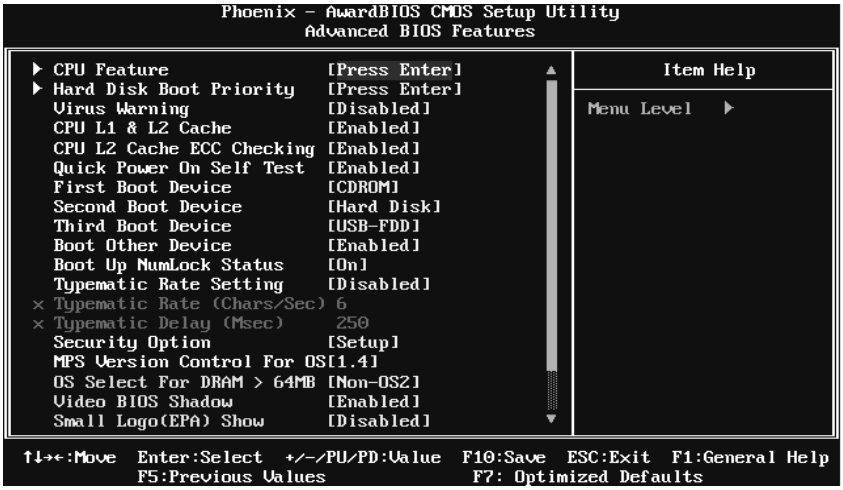
Selections

This table shows the items and the available options on the menu of Standard CMOS Features.

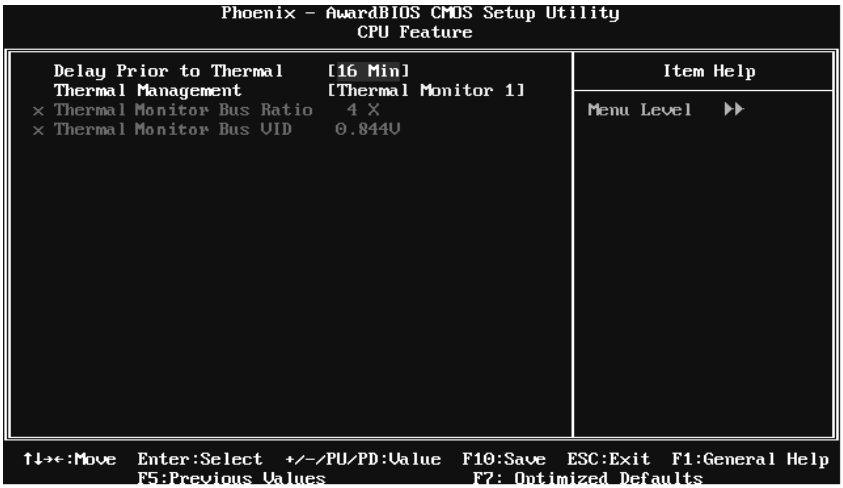
Item	Options	Description
Date	mm : dd : yy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	hh : mm : ss	Set the system internal clock.
SATA Channel 1	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
SATA Channel 2	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Channel 1 Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options

Item	Options	Description
IDE Channel 1 Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
Halt On	All Errors No Errors All, but Keyboard	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

3.5 ADVANCED BIOS FEATURES


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
CPU Feature [Press Enter]
Hard Disk Boot Priority [Press Enter]
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
CPU L2 Cache ECC Checking [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [CDROM]
Second Boot Device [Hard Disk]
Third Boot Device [USB-FDD]
Boot Other Device [Enabled]
Boot Up NumLock Status [On]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
MPS Version Control For OS[1.4]
OS Select For DRAM > 64MB [Non-OS2]
Video BIOS Shadow [Enabled]
Small Logo(EPA) Show [Disabled]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

CPU Features


Phoenix - AwardBIOS CMOS Setup Utility
CPU Feature
Delay Prior to Thermal [16 Min]
Thermal Management [Thermal Monitor 1]
x Thermal Monitor Bus Ratio 4 X
x Thermal Monitor Bus VID 0.844V
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Delay Prior to Thermal

This option controls the activation of the Thermal Monitor's automatic mode. It allows you to determine when the Thermal Monitor should be activated in automatic mode after the system boots.

The Choices: 4 Min / 8 Min / **16 Min (Default)** / 32 Min

Thermal Management

This option allows you to select the way to control the "Thermal Management."

The Choices: Thermal Monitor 1(Default) / Thermal Monitor 2

Thermal Monitor Bus Ratio

This option sets the frequency (bus ratio) of the throttled performance that will be initiated when the on die sensor goes from not hot to hot.

Min=4, Max=10, key in a DEC number.

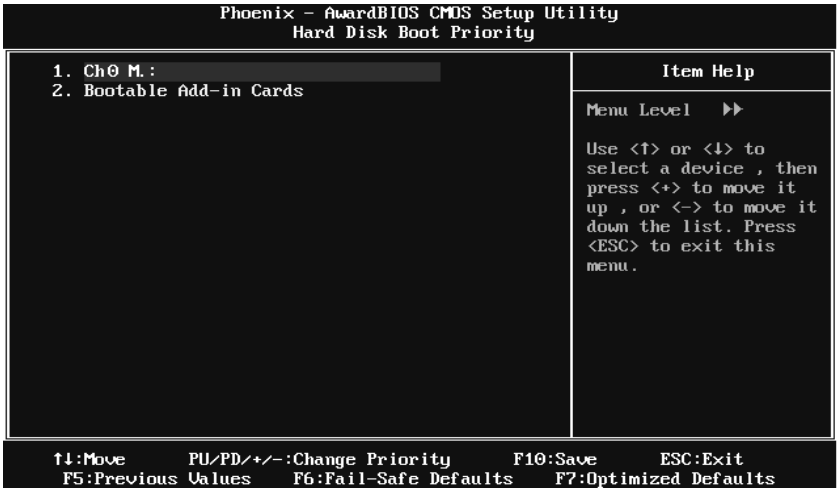
The Choices: 4X (Default)

Thermal Monitor Bus VID

This option sets the voltage of the throttled performance that will be initiated when the on die sensor goes from not hot to hot.

The Choices: 0.700~1.084 with a interval of 0.016 / **0.844V (Default)**

Hard Disk Boot Priority


Phoenix - AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority
1. Ch0 M.:
2. Bootable Add-in Cards
Item Help
Menu Level ▶▶
Use <↑> or <↓> to select a device , then press <+> to move it up , or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓:Move PU/PD/+/-:Change Priority F10:Save ESC:Exit
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

This is for setting the priority of the hard disk boot order when the "Hard Disk" option is selected in the "[First/Second/Third] Boot Device" menu item.

The Choices: Ch0 M.(Channel 0 Master) / Bootable Add-in Cards

Virus Warning

This option allows you to choose the VIRUS Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

The Choices: Enabled / **Disabled (Default)**

CPU L1 & L2 Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

The Choices: Enabled (Default) / Disabled

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC Checking.

The Choices: Enabled (Default) / Disabled.

Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

The Choices:	Disabled	Normal POST.
	Enabled (Default)	Enable quick POST.

First / Second / Third Boot Device

The BIOS will attempt to load the operating system in this order.

The Choices: LS120 / Hard Disk / CDROM / ZIP100 / USB-FDD / USB-ZIP / USB-CDROM / Legacy LAN / Disabled

Boot Other Device

When enabled, BIOS will try to load the operating system from other device when it failed to load from the three devices above.

The Choices: Enabled (Default) / Disabled

Boot Up NumLock Status

Selects the NumLock State after the system switched on.

The Choices:

The Choices:	**On (Default)**	Numpad is number keys.
	Off	Numpad is arrow keys.

Typematic Rate Setting

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.

The Choices: Disabled (Default) / Enabled

Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.

The Choices: 6 (Default) / 8 / 10 / 12 / 15 / 20 / 24 / 30

(This option can be set only when "Typematic Rate Setting" is enabled.)

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The Choices: 250 (Default) / 500 / 750 / 1000

(This option can be set only when "Typematic Rate Setting" is enabled.)

Security Option

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

The Coices:

System:	A password is required for the system to boot and is also required to access the Setup Utility.
Setup (Default):	A password is required to access the Setup Utility only.

This will only apply if passwords are set from the Setup main menu.

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.

Select version supported by the operation system running on this computer.

The Choices: 1.4 (Default) / 1.1

OS Select For DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

The Choices: Non-OS2 (Default) / OS2

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution or not.

The Choices:

Enabled (Default)	Optional ROM is enabled.
Disabled	Optional ROM is disabled.

Small Logo(EPA) Show

This item allows you to select whether the “Small Logo” shows. Enabled (default) “Small Logo” shows when system boots up. Disabled No “Small Logo” shows when system boots

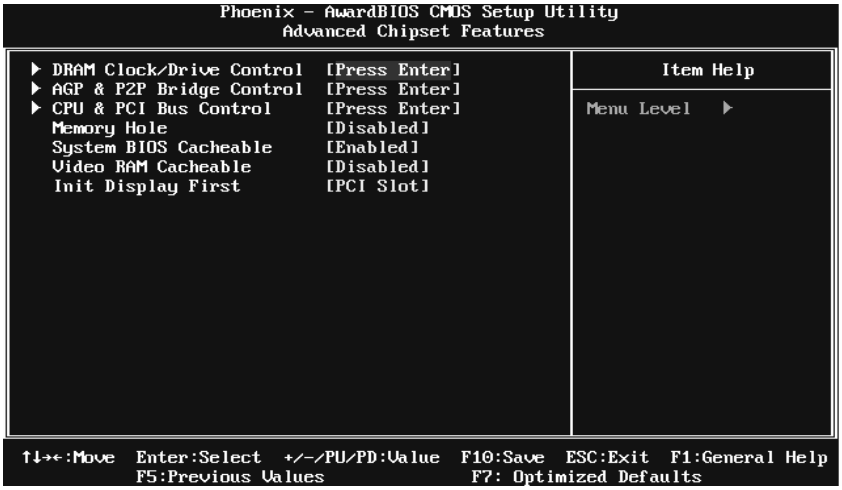
The Choices: Disabled (Default) / Enabled

Summary Screen Show

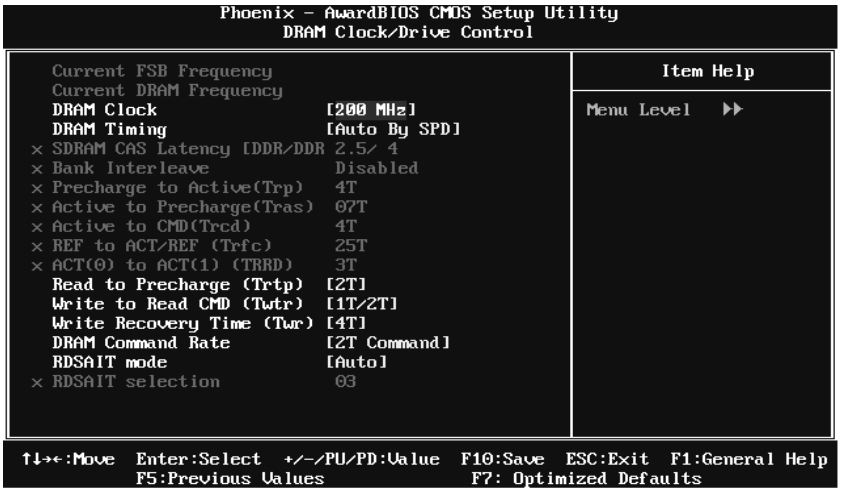
This item allows you to enable/disable the summary screen. Summary screen means system configuration and PCI device listing.

The Choices: Disabled (Default) / Enabled

3.6 ADVANCED CHIPSET FEATURES


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Clock/Drive Control [Press Enter]
AGP & P2P Bridge Control [Press Enter]
CPU & PCI Bus Control [Press Enter]
Memory Hole [Disabled]
System BIOS Cacheable [Enabled]
Video RAM Cacheable [Disabled]
Init Display First [PCI Slot]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

DRAM Clock/Drive Control


Phoenix - AwardBIOS CMOS Setup Utility
DRAM Clock/Drive Control
Current FSB Frequency
Current DRAM Frequency
DRAM Clock [200 MHz]
DRAM Timing [Auto By SPD]
x SDRAM CAS Latency [DDR/DDR 2.5/ 4
x Bank Interleave Disabled
x Precharge to Active(Trp) 4T
x Active to Precharge(Tras) 07T
x Active to CMD(Trcd) 4T
x REF to ACT/REF (Trfc) 25T
x ACT(0) to ACT(1) (TRRD) 3T
Read to Precharge (Trtp) [2T]
Write to Read CMD (Twtr) [1T/2T]
Write Recovery Time (Twr) [4T]
DRAM Command Rate [2T Command]
RDSAIT mode [Auto]
x RDSAIT selection 03
Item Help
Menu Level ▶▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

DRAM Clock

This item determines DRAM clock.

The Choices: 200MHz (Default) / By SPD / 266MHz / 533MHz

DRAM Timing

This item determines DRAM clock/ timing.

The Choices: Auto by SPD (Default) / Manual

SDRAM CAS Latency [DDR/DDR2]

When DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

The Choices: 2.5/4(Default) / 1.5/2 / 2/3 / 3/5

Bank Interleave

This item allows you to enable or disable the bank interleave feature.

The Choices: Disabled (Default) / 2 Bank / 4 Bank / 8 Bank

Precharge to Active (Trp)

This item allows you to specify the delay from precharge command to activate command.

The Choices: 4T (Default) / 2T / 3T / 5T

Active to Precharge (Tras)

This item allows you to specify the minimum row active time (TRAS).

The Choices: 07T (Default) / 05T~20T

Active to CMD (Trcd)

Use this item to specify the delay from the activation of a bank to the time that a read or write command is accepted.

The Choices: 4T (Default) / 2T / 3T / 5T

REF to ACT/REF (Trfc)

This item allows you to determine the selection for REF to ACT/REF to REF (TRFC).

The Choices: 25T (Default) / 08T~71T

ACT (0) to ACT (1) (TRRD)

This item allows you to determine the selection for ACT (0) to ACT (1) (TRRD)

The Choices: 3T (Default) / 2T / 4T / 5T

Read to Precharge (Trtp)

This item allows you to determine the selection for Read to Precharge (TRTP)

The Choices: 2T (Default) / 3T

Write to Read CMD (Twtr)

This item allows you to determine the selection for Write to Read CMD (TWTR)

The Choices: 1T/2T (Default) / 2T/3T

Write Recovery Time (Twr)

This item allows you to determine the selection for Read to Precharge (TRTP)

The Choices: 4T (Default) / 2T / 3T / 5T

DRAM Command Rate

This field is for setting how fast the memory controller sends out commands.

Lower setting equals faster command rate.

NOTE: Some memory modules may not be able to handle lower settings.

The Choices: 2T Command (Default) / 1T Command

RDSAIT mode

This option allows you to choose the way RDSAIT works.

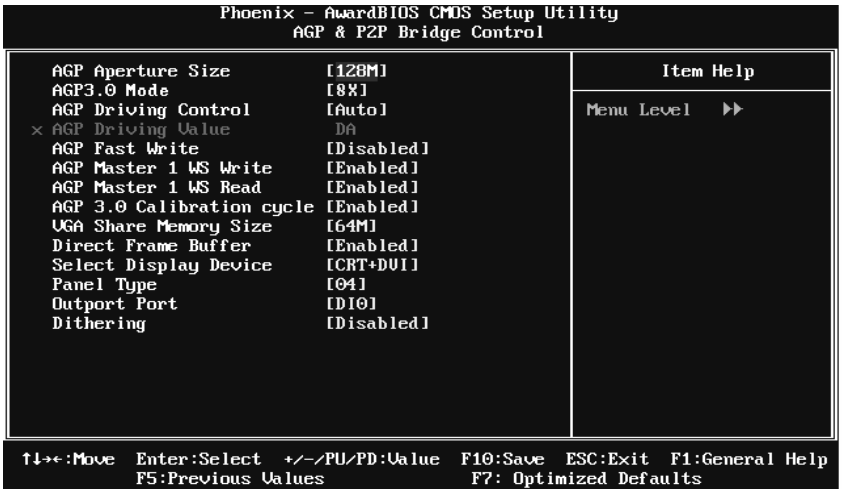
The Choices: Auto (Default) / Manual

RDSAIT selection

Min=0000, Max=003F, key in a HEX number.

The Choices: 03 (Default)

AGP & P2P Bridge Control


Phoenix - AwardBIOS CMOS Setup Utility
AGP & P2P Bridge Control
AGP Aperture Size [128M]
AGP3.0 Mode [8X]
AGP Driving Control [Auto]
x AGP Driving Value DA
AGP Fast Write [Disabled]
AGP Master 1 WS Write [Enabled]
AGP Master 1 WS Read [Enabled]
AGP 3.0 Calibration cycle [Enabled]
VGA Share Memory Size [64M]
Direct Frame Buffer [Enabled]
Select Display Device [CRT+DVI]
Panel Type [04]
Outport Port [DI0]
Dithering [Disabled]
Item Help
Menu Level ▶▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

AGP Aperture Size

This setting controls how much memory space can be allocated to AGP for video purposes. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

The Choices: 128M (Default) / 32M / 64M / 256M / 512M / 1G

AGP 3.0 Mode

This item allows you to select the AGP mode.

The Choices: 8X (Default) / 4X / 2X / 1X

AGP Driving Control

This item is used to signal driving current on AGP cards to auto or manual.

The Choices: Auto (Default) / Manual

AGP Driving Value

Min=0000, Max=00FF, key in a HEX number.

The Choices: DA (Default)

AGP Fast Write

This item is used to enable or disable the caching of display data for the video memory of the processor.

The Choices: Disabled (Default) / Enabled

AGP Master 1 WS Write/Read

This item is used to enable or disable the AGP Master 1 WS Write/Read function.

The Choices: Enabled (Default) / Disabled

AGP 3.0 Calibration Cycle

The Choices: Enabled (Default) / Disabled

VGA Share Memory Size

This item allows you to select the VGA share memory size.

The Choices: 64M (Default) / 16M / 32M / Disabled

Direct Frame Buffer

This item allows you to disabled or enabled direct frame buffer.

The Choices: Enabled (Default) / Disabled

Select Display Device

This option allows you to select to display device.

The Choices: CRT+DVI (Default) / DVI / CRT

Panel Type

This option allows you to select to type of the panel.

Min=0000, Max=000F, key in a HEX number.

The Choices: 04 (Default)

Outport Port

This option allows you to select to type of out-port.

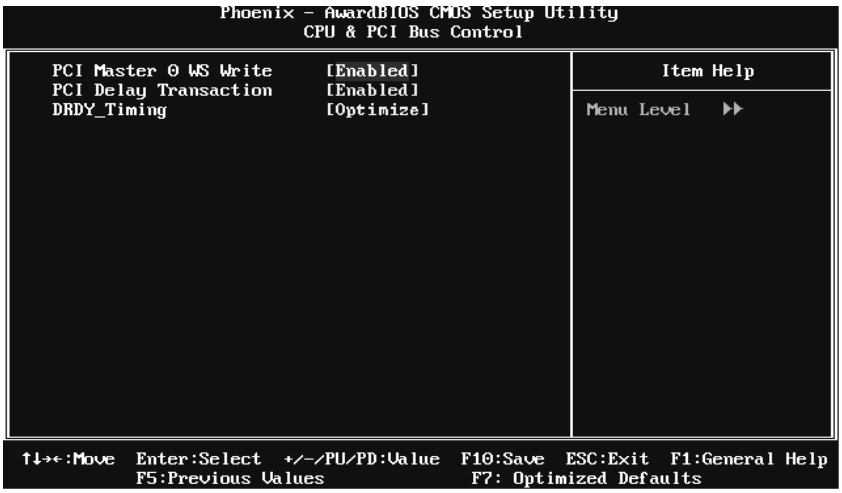
The Choices: DI0 (Default) / DI1

Dithering

This option allows you turn on/off the dithering function.

The Choices: Disabled (Default) / Enabled

CPU & PCI Bus Control


Phoenix - AwardBIOS CMOS Setup Utility
CPU & PCI Bus Control
PCI Master 0 WS Write [Enabled]
PCI Delay Transaction [Enabled]
DRDY_Timing [Optimize]
Item Help
Menu Level ▶▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

PCI Master 0 WS Write

When enabled, writes to the PCI bus are executed with zero-wait states.

The Choices: Enabled (Default) / Disabled

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification.

The Choices: Enabled (Default) / Disabled

DRDY_Timing

The Choices: Optimize (Default) / Slowest / Default

Memory Hole

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached. Check the user information of peripherals that need to use this area of system memory for the memory requirements.

The Choices: Disabled (Default) / 15M-16M

System BIOS Cacheable

Selecting the "Enabled" option allows caching of the system BIOS ROM at F0000h-FFFFFh, which is able to improve the system performance. However, any programs that attempts to write to this memory block will cause conflicts and result in system errors.

The Choices: Enabled (Default) / Disabled

Video RAM Cacheable

This option allows you to turn on/off the video ram cacheable function.

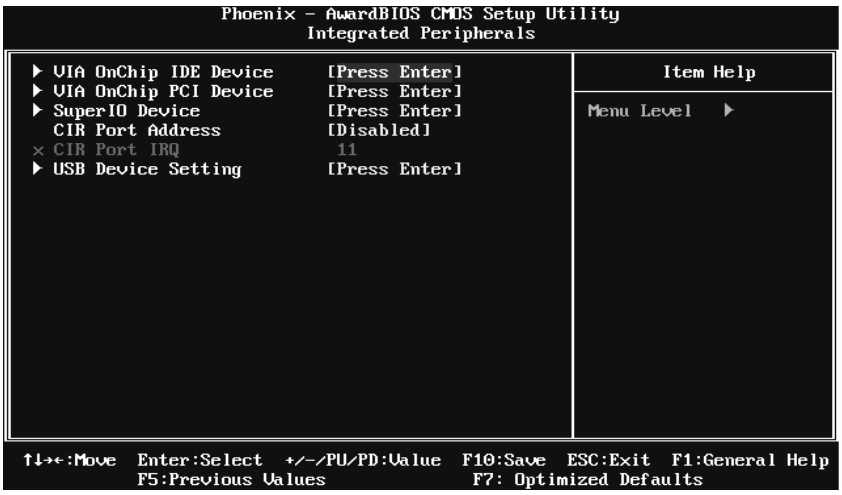
The Choices: Disabled (Default) / Enabled

Init Display First

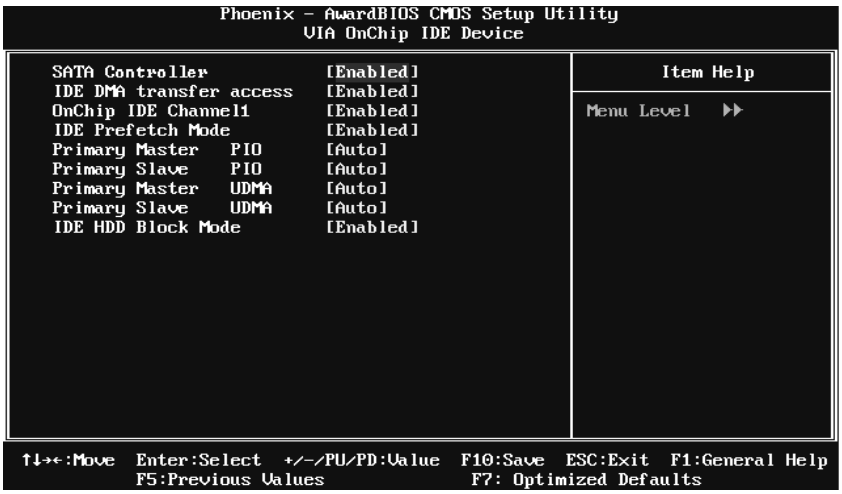
This option allows you to select the initial slot for display card.

The Choices: PCI Slot (Default) / AGP

3.7 INTEGRATED PERIPHERALS


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
VIA OnChip IDE Device [Press Enter]
VIA OnChip PCI Device [Press Enter]
SuperIO Device [Press Enter]
CIR Port Address [Disabled]
CIR Port IRQ 11
USB Device Setting [Press Enter]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

VIA OnChip IDE Device


Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip IDE Device
SATA Controller [Enabled]
IDE DMA transfer access [Enabled]
OnChip IDE Channel1 [Enabled]
IDE Prefetch Mode [Enabled]
Primary Master PIO [Auto]
Primary Slave PIO [Auto]
Primary Master UDMA [Auto]
Primary Slave UDMA [Auto]
IDE HDD Block Mode [Enabled]
Item Help
Menu Level ▶▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

SATA Controller

This option allows you to enable the on-chip Serial ATA.

The Choices: Enabled (Default) / Disabled

IDE DMA transfer Access

This item allows you to enable or disable the IDE DMA transfer access.

The Choices: Enabled (Default) / Disabled

OnChip IDE Channel 1

The mainboard chipset contains a PCI IDE interface with support for one IDE channel. Select “Enabled” to activate the IDE interface. Select “Disabled” to deactivate the interface if you are going to install a add-in IDE interface.

The Choices: Enabled (Default) / Disabled

IDE Prefetch Mode

The “onboard” IDE drive interfaces supports IDE prefetch function for faster drive access. If the interface on your drive does not support prefetching, or if you install a add-in IDE interface, set this option to “Disabled”.

The Choices: Enabled (Default) / Disabled.

Primary Master/Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.

The Choices: Auto (Default) / Mode0 / Mode1 / Mode2 / Mode3 / Mode4

Primary Master/Slave UDMA

Ultra DMA function can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 or OSR2may need a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support.

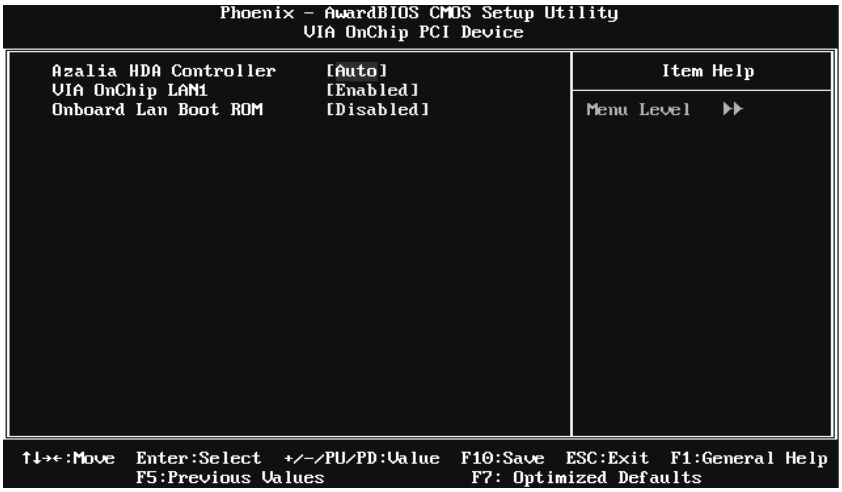
The Choices: Auto (Default) / Disabled

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sectors read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.

The Choices: Enabled (Default) / Disabled

VIA OnChip PCI Device


Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip PCI Device
Azalia HDA Controller [Auto]
VIA OnChip LAN1 [Enabled]
Onboard Lan Boot ROM [Disabled]
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Azalia HAD Controller

Auto allows the mainboard to detect whether an audio device is used. If the device is detected, the onboard HD audio controller will be disabled; otherwise, it is enabled. Disable the controller if another controller card is being used to connect to an audio device.

The Choices: Auto (Default) / Disabled

VIA OnChip LAN1

This option allows you to control the onboard LAN.

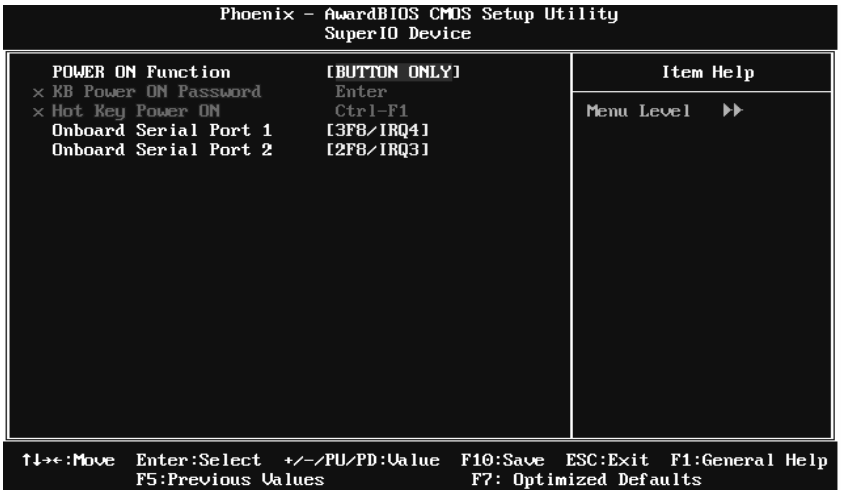
The Choices: Enabled (Default) / Disabled

Onboard Lan Boot ROM

Decide whether to invoke the boot ROM of the onboard LAN chip.

The Choices: Disable (Default) / Enabled

SuperIO Device


Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device
POWER ON Function [BUTTON ONLY]
× KB Power ON Password Enter
× Hot Key Power ON Ctrl-F1
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

POWER ON Function

This item allows you to choose the power on function.

The Choices: Button Only (Default) / Password / Hot Key / Mouse Move/Click / Mouse Double Click / Any Key / Keyboard 98

KB POWER ON Password

Input password and press Enter to set the Keyboard power on password.

Hot Key Power ON

This item allows you to set the hot-key for powering on the system.

The Choices: Ctrl-F1 (Default) / Ctrl-F2 / Ctrl-F3 / Ctrl-F4 / Ctrl-F5 / Ctrl-F6 / Ctrl-F7 / Ctrl-F8 / Ctrl-F9 / Ctrl-F10 / Ctrl-F11 / Ctrl-F12

Onboard Serial Port 1/2

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: 3F8/IRQ4 / Disabled / 2F8/IRQ3 / 3E8/IRQ4 / 2E8/IRQ3 / Auto

CIR Port Address

This option allows you to set the CIR port address.

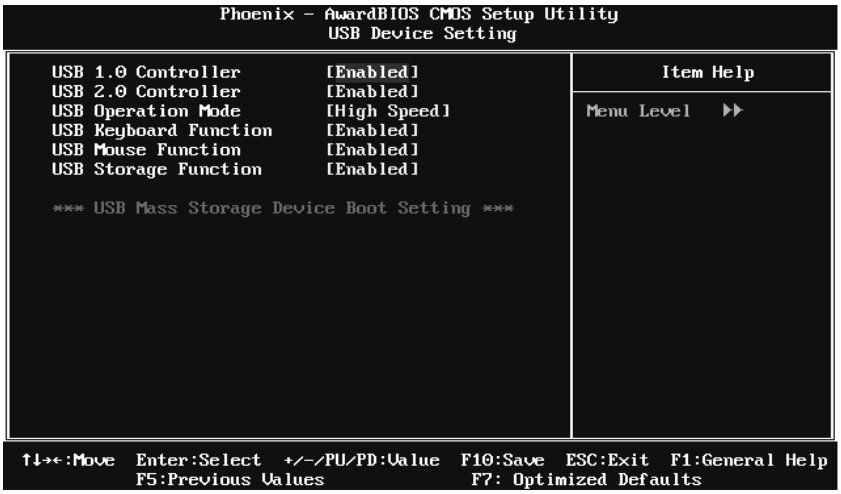
The Choices: Disabled (Default) / 220 / 228

CIR Port IRQ

This option allows you to set the CIR port IRQ.

The Choices: 11 (Default) / 5

USB Device Setting


Phoenix - AwardBIOS CMOS Setup Utility
USB Device Setting
USB 1.0 Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Operation Mode [High Speed]
USB Keyboard Function [Enabled]
USB Mouse Function [Enabled]
USB Storage Function [Enabled]
*** USB Mass Storage Device Boot Setting ***
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

USB 1.0/2.0 Controller

This entry is to enabled/ disabled EHCI controller only. This Bios itself may/may not have high speed USB support. If the Bios has high speed USB support built in,the support will be automately turn on when high speed device were attached.

The Choices: Enabled (Default) / Disabled

USB Operation Mode

Auto decide USB device operation mode.

[High speed]: if USB device was high speed device, then it operated on high speed mode. If USB device was full/low speed device, then it operated on full/low speed mode.

[Full/Low Speed]: All OF USB device operated on FUUL/LOW speed mode.

The Choices: High Speed (Default) / Full/Low Speed

USB Keyboard/Mouse/Storage Function

This item allows you to enable or disable the USB Keyboard/ Mouse/ USB Storage Legacy Support.

The Choices:

Enabled (Default)	Enable USB Keyboard/Mouse/USB Storage Support.
Disabled	Disable USB Keyboard / Mouse/ USB Storage Support.

USB Mass Storage Device Boot Setting

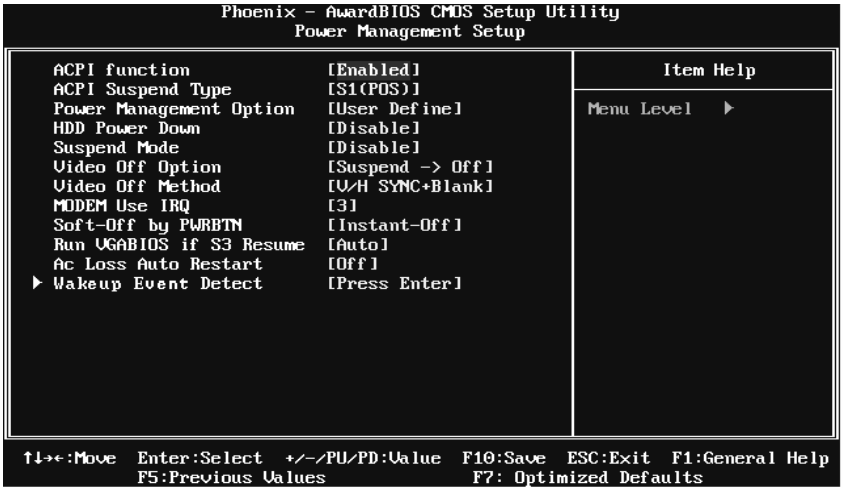
[Auto Mode]: According to contents of USB MSD decide boot up type.

[FDD Mode]: The USB MSD always boot up as floppy disk.

[HDD Mode]: The USB MSD always boot up as hard disk.

The Choices: Auto Mode (Default) / FDD Mode / HDD Mode

3.8 POWER MANAGEMENT SETUP


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S1(POS)]
Power Management Option [User Define]
HDD Power Down [Disable]
Suspend Mode [Disable]
Video Off Option [Suspend -> Off]
Video Off Method [V/H SYNC+Blank]
MODEM Use IRQ [3]
Soft-Off by PWRBTN [Instant-Off]
Run VGABIOS if S3 Resume [Auto]
Ac Loss Auto Restart [Off]
Wakeup Event Detect [Press Enter]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

ACPI Function

This item displays the status of the Advanced Configuration and Power Management (ACPI).

The Choices: Enabled (Default) / Disabled.

ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.

The Choices:

S1 (POS) (Default)	Power on Suspend
S3 (STR)	Suspend to RAM
S1&S3	POS+STR

Power Management Option

This category allows you to select the power saving method and is directly related to the following modes:

1. HDD Power Down.
2. Suspend Mode.

There are three options of Power Management, three of which have fixed mode settings.

The Choices:

Min Saving

Minimum power management.

Suspend Mode = 1 hr.

HDD Power Down = Disable

Max Saving

Maximum power management only available for sl CPU's.

Suspend Mode = 1 min.

HDD Power Down = Disable

User Define (Default)

Allow you to set each option individually.

When you choose user define, you can adjust each of the item from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min.

HDD Power Down

When enabled, the hard-disk drives will power down after a set time of system inactivity. All other devices remain active.

The Choices: Disabled (Default) / 1 Min~15Min

Suspend Mode

The item allows you to adjust the system idle time before suspend.

The Choices: Disabled (Default) / 1 Min / 2 Min / 4 Min / 6 Min / 8 Min / 10 Min / 20 Min / 30 Min / 40 Min / 1 Hour

Video Off Option

This field determines when to activate the video off feature for monitor power management.

The Choices: Suspend→Off (Default) / Always on

Video Off Method

This option determines the manner when the monitor goes blank.

The Choices:

V/H SYNC+Blank (Default)

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS Support

Initial display power management signaling.

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.

The Choices: 3 (Default) / 4 / 5 / 7 / 9 / 10 / 11 / NA

Soft-Off by PWRBTN

This item determines the behavior of system power button. Instant off turn off the power immediately, and Delay 4 Sec. will require you to press and hold the power button for 4 seconds to cut off the system power.

The Choices: Delay 4 Sec / **Instant-Off (Default)**

Run VGABIOS if S3 Resume

Choosing Enabled will make BIOS run VGA BIOS to initialize the VGA card when system wakes up from S3 state. The system resume time is shortened if you disable the function, but system will need AGP driver to initialize the card. So, if the AGP driver of the VGA card does not support the initialization feature, the display may work abnormally or not function after S3.

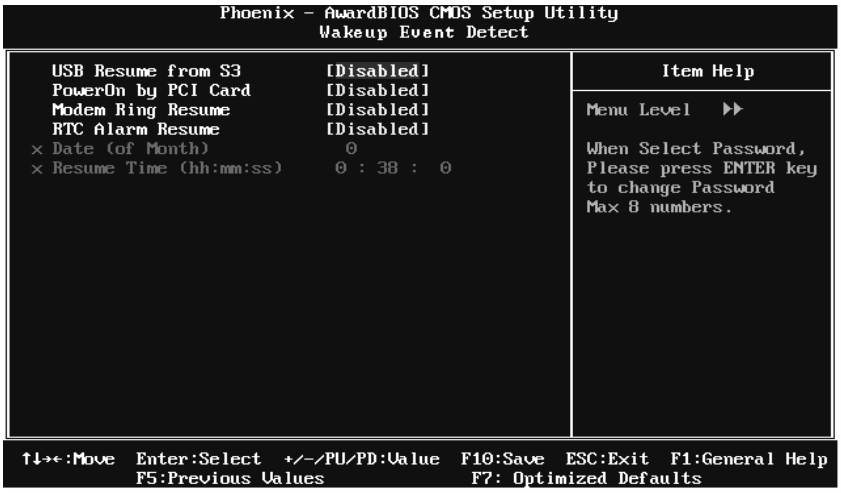
The Choices: Auto (Default) / Yes / No

Ac Loss Auto Restart

This setting specifies how your system should behave after a power fail or interrupts occurs. By choosing off will leave the computer in the power off state. Choosing On will reboot the computer. Former-Sts will restore the system to the status before power failure or interrupt occurs.

The Choices: Off (Default) / On / Former-Sts

Wakeup Event Detect


Phoenix - AwardBIOS CMOS Setup Utility
Wakeup Event Detect
USB Resume from S3 [Disabled]
PowerOn by PCI Card [Disabled]
Modem Ring Resume [Disabled]
RTC Alarm Resume [Disabled]
x Date (of Month) 0
x Resume Time (hh:mm:ss) 0 : 38 : 0
Item Help
Menu Level ▶▶
When Select Password, Please press ENTER key to change Password Max 8 numbers.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

USB Resume from S3

This item allows you to wake up from S3 with USB device.

The Choices: Disabled (Default) / Enabled

PowerOn by PCI Card

When you select Enabled, a PME signal from PCI card returns the system to Full ON state.

For this function to work, you may need a LAN add-on card which supports the Wake on LAN function. Set the Wake on LAN (WOL) jumper on mainboard to enable if applicable.

The Choices: Disabled (Default) / Enabled

Modem Ring Resume

This item allows you to disable or enable Modem Ring Resume function.

The Choices: Disabled (Default) / Enabled

RTC Alarm Resume

When “Enabled”, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

The Choices: Disabled (Default) / Enabled

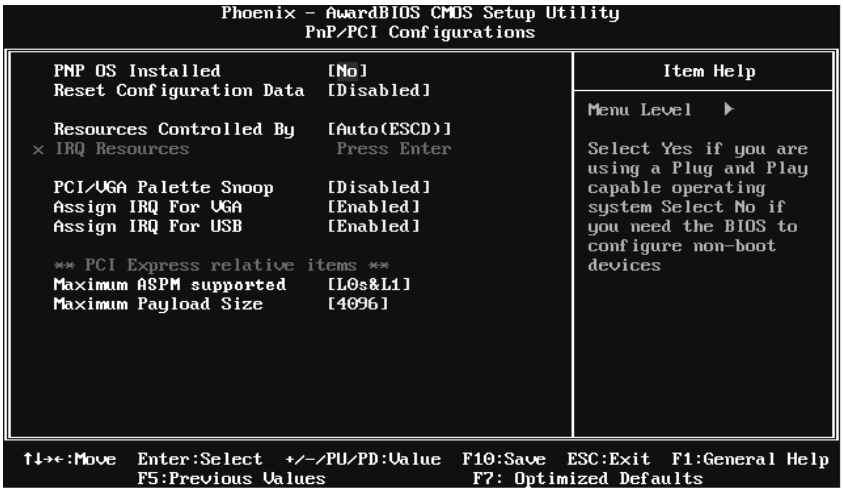
Date (of Month)

You can choose which month the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

Resume Time (hh:mm:ss)

You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

3.9 PNP/PCI CONFIGURATIONS


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
PNP OS Installed [No]
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Assign IRQ For VGA [Enabled]
Assign IRQ For USB [Enabled]
** PCI Express relative items **
Maximum ASPM supported [L0s&L1]
Maximum Payload Size [4096]
Item Help
Menu Level ▶
Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

PNP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Window™ 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware™), this option must set to NO.

The Choices: No (Default) / Yes

Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict.

Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signify that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: Disabled (Default) / Enabled

Resources Controlled By

By Choosing "Auto(ESCD)" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

The Choices: Auto (ESCD) (Default) / Manual

IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3	assigned to	PCI Device
IRQ-4	assigned to	PCI Device
IRQ-5	assigned to	PCI Device
IRQ-7	assigned to	PCI Device
IRQ-9	assigned to	PCI Device
IRQ-10	assigned to	PCI Device
IRQ-11	assigned to	PCI Device
IRQ-12	assigned to	PCI Device
IRQ-14	assigned to	PCI Device
IRQ-15	assigned to	PCI Device

PCI / VGA Palette Snoop

Some old graphic controllers need to "snoop" on the VGA palette and then map it to their display as a way to provide boot information and VGA compatibility. This item allows such snooping to take place.

The Choices: Disabled (Default) / Enabled

Assign IRQ For VGA

This item allows the users to choose which IRQ to assign for the VGA.

The Choices: Enabled (Default) / Disabled

Assign IRQ For USB

This item allows the users to choose which IRQ to assign for the USB.

The Choices: Enabled (Default) / Disabled

Maximum ASPM Supported

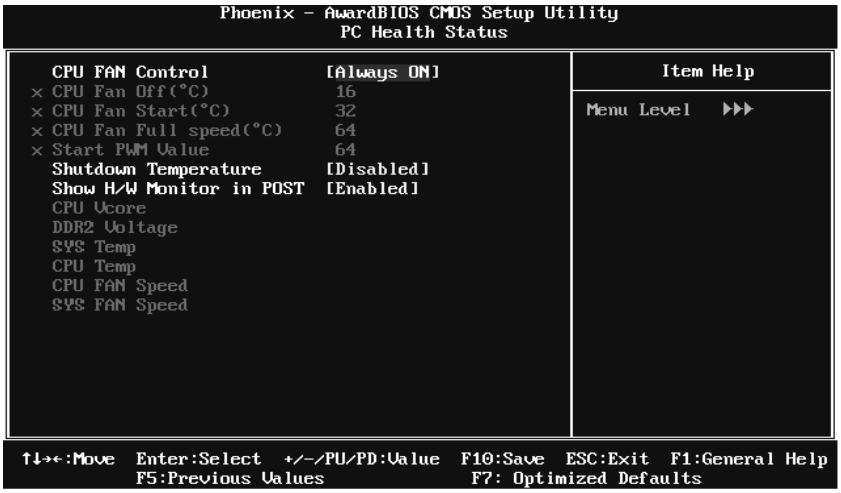
The Choice: L0s&L1 (Default)

Maximum Payload Size

Set the maximum payload size for Transaction packets (TLP).

The Choice: 4096 (Default.) / 128 / 256 / 512 / 1024 / 2048

3.10 PC HEALTH STATUS



CPU FAN Control (Optional)

This option allows you to choose the way system controls the CPU cooling fan.

The Choices: Smart (Default) / Always ON / Thermal Cruise / Manual PWM

CPU Fan Off<℃> (Optional)

If the CPU Temperature is lower than the set value, FAN will turn off.

The Choices: Min=0, Max=90, Key in a DEC number.

CPU Fan Start<℃> (Optional)

CPU fan starts to work under smart fan function when arrive this set value.

The Choices: Min=0, Max=90, Key in a DEC number.

CPU Fan Full speed <℃> (Optional)

When CPU temperature is reach the set value, the CPU fan will work under Full Speed.

The Choices: Min=0, Max=90, Key in a DEC number.

Start PWM Value (Optional)

When CPU temperature arrives to the set value, the CPU fan will work under Smart Fan Function mode. The range is from 0~127, with an interval of 1.

The Choices: Min=0, Max=127, Key in a DEC number.

Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item is only effective under Windows 98 ACPI mode.

The Choices: Disabled (Default) / 60℃/140℉ / 65℃/149℉ / 70℃/158℉

Show H/W Monitor in POST

If you computer contains a monitoring system, it will show PC health status during POST stage. The item offers several different delay times.

The Choices: Enabled (Default) / Disabled

CPU Vcore / DDR2 Voltage

Detect the system's voltage status automatically.

SYS Temp

This field displays the current temperature of the system.

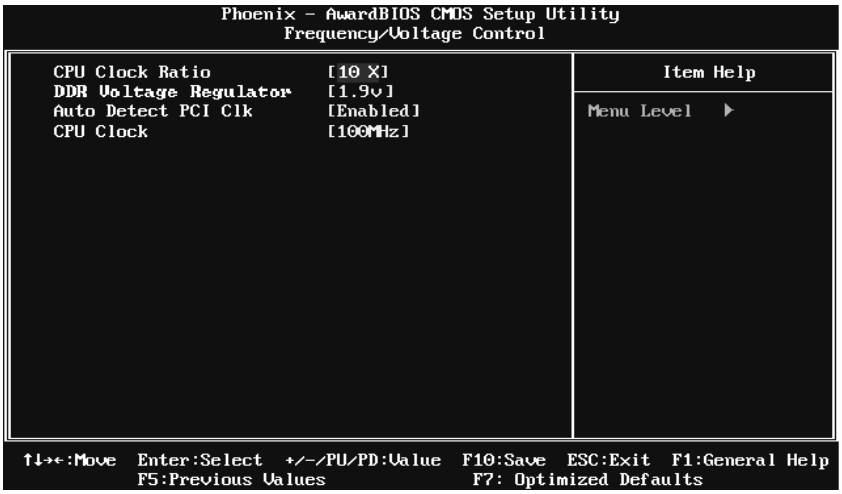
CPU Temp

This field displays the current temperature of CPU.

CPU FAN Speed (Optional)

This field displays the current speed of CPU fan.

3.11 FREQUENCY/VOLTAGE CONTROL


Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control
CPU Clock Ratio [10 X]
DDR Voltage Regulator [1.9v]
Auto Detect PCI Clk [Enabled]
CPU Clock [100MHz]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

CPU Clock Ratio

This field is for setting the CPU internal clock multiplier.
Min=8, Max=10, key in a DEC number.
The Choices: 10X (Default)

DDR Voltage Regulator

This item allows you to select DDR Voltage Regulator.
The Choices: 1.9v (Default) / 2.0v / 2.1v / 2.2v

Auto Detect PCI Clk

This option allows you to enable or disable the PCI clock auto-detect function.
The Choices: Enabled (Default) / Disabled

CPU CLOCK

This item allows you to select CPU Clock, and CPU over clocking.
Min=100, Max=132, key in a DEC number.
The Choices: 100MHz (Default)

CHAPTER 4: RAID FUNCTIONS

4.1 Operating System

Supports Windows XP Home/Professional Edition, and Windows 2000 Professional.

4.2 RAID Arrays

RAID supports the following types of RAID arrays:

RAID 0: RAID 0 defines a disk striping scheme that improves disk read and write times for many applications.

RAID 1: RAID 1 defines techniques for mirroring data.

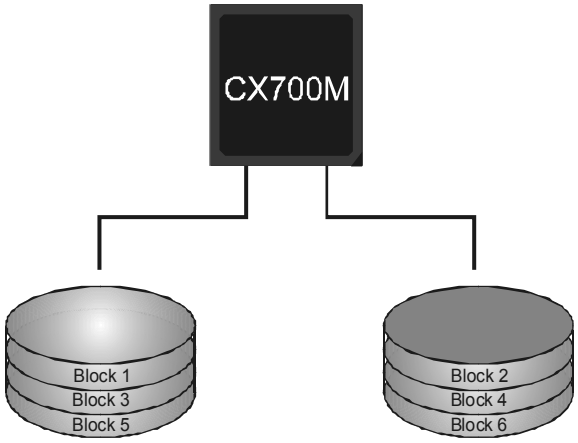
4.3 How RAID Works

RAID 0:

The controller "stripes" data across multiple drives in a RAID 0 array system. It breaks up a large file into smaller blocks and performs disk reads and writes across multiple drives in parallel. The size of each block is determined by the stripe size parameter, which you set during the creation of the RAID set based on the system environment. This technique reduces overall disk access time and offers high bandwidth.

Features and Benefits

- ***Drives:*** Minimum 2, and maximum is up to 6 or 8. Depending on the platform.
- ***Uses:*** Intended for non-critical data requiring high data throughput, or any environment that does not require fault tolerance.
- ***Benefits:*** provides increased data throughput, especially for large files. No capacity loss penalty for parity.
- ***Drawbacks:*** Does not deliver any fault tolerance. If any drive in the array fails, all data is lost.
- ***Fault Tolerance:*** No.



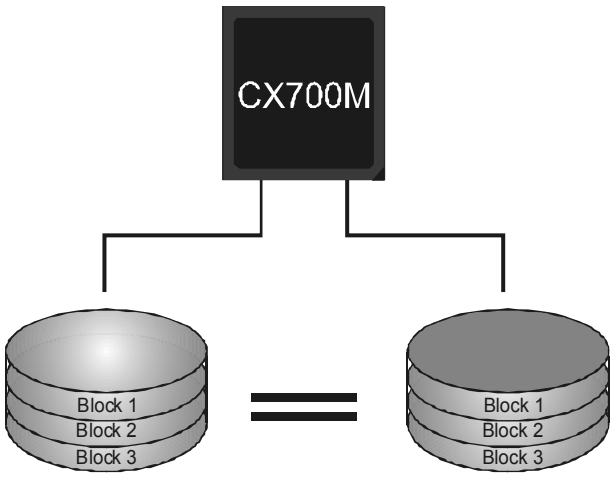
RAID 1:

Every read and write is actually carried out in parallel across 2 disk drives in a RAID 1 array system. The mirrored (backup) copy of the data can reside on the same disk or on a second redundant drive in the array. RAID 1 provides a hot-standby copy of data if the active volume or drive is corrupted or becomes unavailable because of a hardware failure.

RAID techniques can be applied for high-availability solutions, or as a form of automatic backup that eliminates tedious manual backups to more expensive and less reliable media.

Features and Benefits

- ***Drives:*** Minimum 2, and maximum is 2.
- ***Uses:*** RAID 1 is ideal for small databases or any other application that requires fault tolerance and minimal capacity.
- ***Benefits:*** Provides 100% data redundancy. Should one drive fail, the controller switches to the other drive.
- ***Drawbacks:*** Requires 2 drives for the storage space of one drive. Performance is impaired during drive rebuilds.
- ***Fault Tolerance:*** Yes.

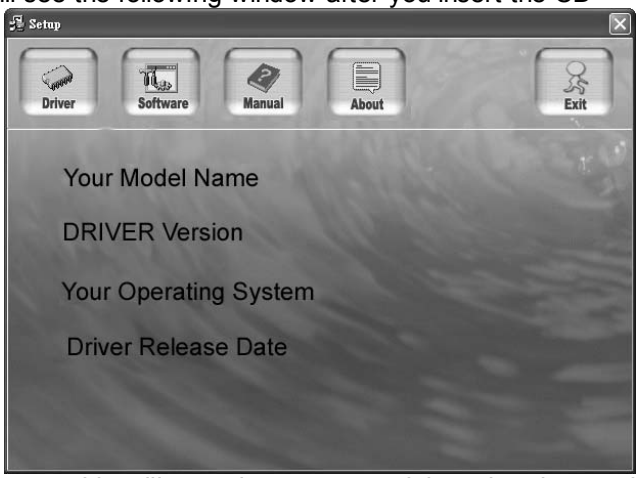


CHAPTER 5: USEFUL HELP

5.1 DRIVER INSTALLATION NOTE

After you installed your operating system, please insert the Fully Setup Driver CD into your optical drive and install the driver for better system performance.

You will see the following window after you insert the CD



The setup guide will auto detect your mainboard and operating system.

> ***Note:***
> If this window didn't show up after you insert the Driver CD, please use file browser to locate and execute the file ***SETUP.EXE*** under your optical drive.

A. Driver Installation

To install the driver, please click on the Driver icon. The setup guide will list the compatible driver for your mainboard and operating system. Click on each device driver to launch the installation program.

B. Software Installation

To install the software, please click on the Software icon. The setup guide will list the software available for your system, click on each software title to launch the installation program.

C. Manual

Aside from the paperback manual, we also provide manual in the Driver CD. Click on the Manual icon to browse for available manual.

> ***Note:***
> You will need Acrobat Reader to open the manual file. Please download the latest version of Acrobat Reader software from
> ***http://www.adobe.com/products/acrobat/readstep2.html***

5.2 PHOENIX-AWARD BIOS BEEP CODE

Beep Sound	Meaning
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	CPU overheated System will shut down automatically
One Short beep when system boot-up	No error found during POST
Long beeps every other second	No DRAM detected or install

5.3 EXTRA INFORMATION

CPU Overheated

If the system shutdown automatically after power on system for seconds, that means the CPU protection function has been activated.

When the CPU is over heated, the mainboard will shutdown automatically to avoid a damage of the CPU, and the system may not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. The CPU fan is rotated normally.
3. The CPU fan speed is fulfilling with the CPU speed.

After confirmed, please follow steps below to relief the CPU protection function.

1. Remove the power cord from power supply for seconds.
2. Wait for seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data.
   (See “Close CMOS Header: JBAT1” section)
2. Wait for seconds.
3. Power on the system again.

5.4 TROUBLESHOOTING

Probable	Solution
1. No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. 2. Indicator light on keyboard does not turn on.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from hard disk drive, can be booted from optical drive.	1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	1. Back up data and applications files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
Cannot boot system after installing second hard drive.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

2008/11/19